

**MILITARY
RUSSIA**
DOMESTIC MILITARY EQUIPMENT (after 1945)

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ARTICLES

FORUM

A-35 Aldan system, A-350Zh / 5V61 missile - ABM-1 GALOSH

DATA AS OF 2023 (standard replenishment)
A-35 system, Aldan complex, V-1100 / A-350Zh / 5V61 / UR-96 missile - ABM-1 GALOSH / SH-01
A-35 system, V-1100 / A-350Zh / 5V61 / UR-96 missile - ABM-1 mod.1 / ABM-1A GALOSH
 ★★★★★





ABM system of the Central Administrative-Industrial Region of the USSR / Moscow. Lead developer - OKB-30 (until 1962 - SKB-30 KB-1), chief designer of the system - [G.V. Kisunko](#) . The missile was created in OKB-2 under the supervision of P.D. Grushin (now - MKB Fakel, Khimki). The Resolution of the USSR Council of Ministers "Anti-Missile Defense Issues" dated April 8, 1958, outlined the development of the A-35 ABM combat system. The ABM system was based on the following principles: the ABM system protects the administrative-industrial region, and targets are intercepted outside the atmosphere by anti-missiles with nuclear warheads. The contractors and work schedule were determined by the Resolutions of the USSR Council of Ministers "On the A-35 System" dated December 10, 1959 and "On the Creation of the ABM System of the Moscow Industrial Region" dated January 7, 1960.

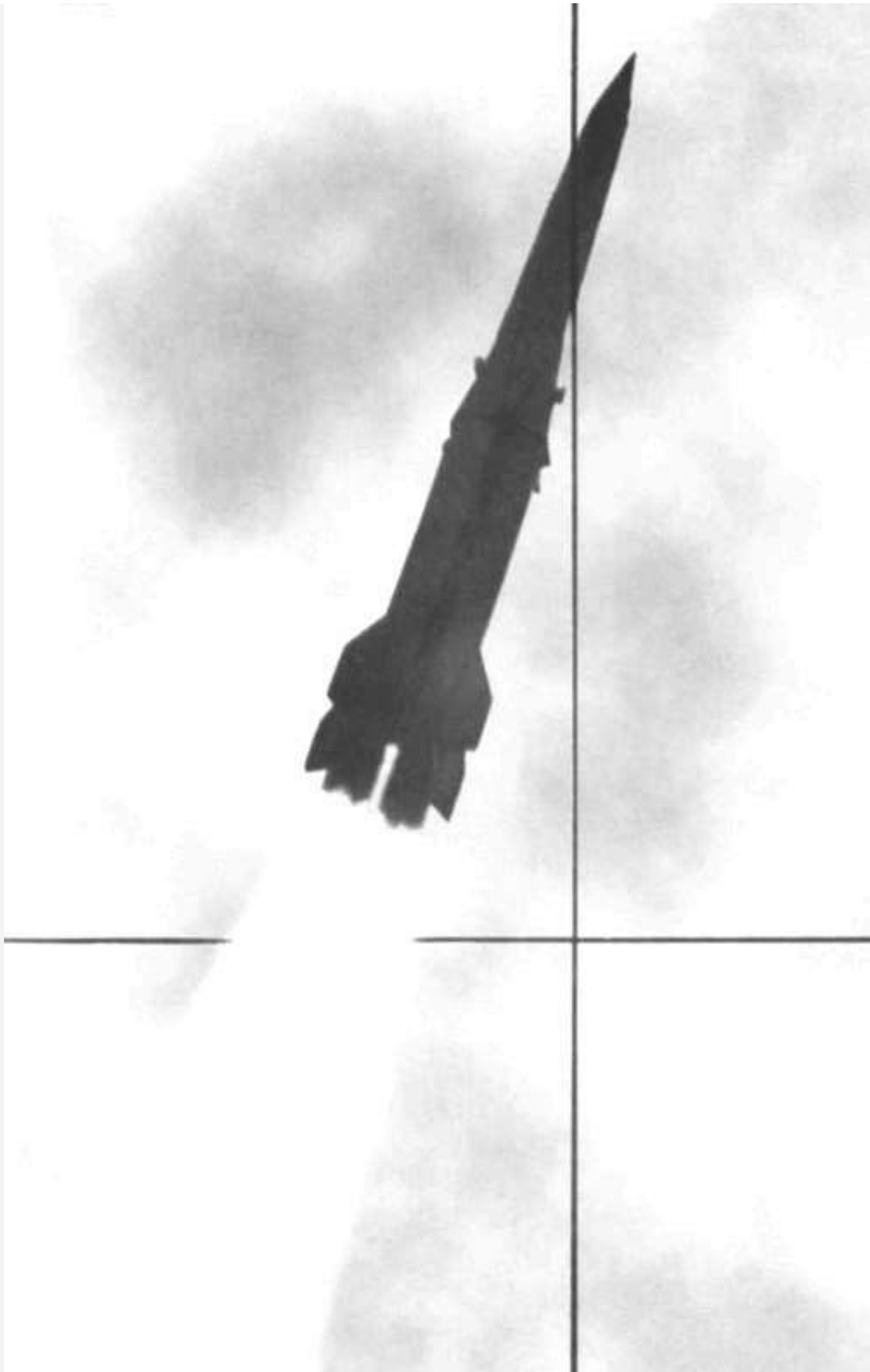
- SKB-30 KB-1 / OKB-30 (G.V. Kisunko) - the ABM system as a whole, missile guidance systems, autopilot, etc.;
- OKB-2 MAP (P.D. Grushin) - the A-350 anti-missile, launch and technical positions of the ABM system;
- NII-1011 MSM - nuclear warhead of the A-350 anti-missile.

According to the pre-draft design of 1962, the ABM system included 8 Danube-3 AWACS radars with a total field of view of 360 degrees, a command and control center and 32 firing complexes (8 launchers each - a total of 256 launchers, with missiles with conventional and nuclear warheads). The draft design of the A-35 Moscow system was finalized in June 1961, taking into account the tests of the ABM system " Δ ", conducted in the first half of 1961, and defended in the fall of 1962. In June 1962, the draft design of the warhead of the A-350Zh anti-missile was defended at NII-1011. According to the design, the Moscow ABM system was to include 8 firing complexes, ensuring the interception of 6 paired targets attacking Moscow from the same or different directions. In order to test the system components, it was planned to build and test the Aldan missile defense testing ground complex simultaneously with the deployment.

Catalog of r

- AIR
- EARTH
- Armored
- Surface-t
- Surface-t
- Air defen
- Anti-miss
- System
- Saturn
- A-35 AI
- S-225 / 5Ya27 i
- S-225 / missile
- Taran S
- Zaslou
- Terra-3
- Aurora - ABM-
- A-35M
- S-375 s
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- A-135 / ABM-4
- A-135 / ABM-3
- S-550 s
- Progra
- Comple
- OKR S
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- System Samole
- System
- S-500 "
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- Other u projects
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- Small arm
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- Radar, el
- WATER
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- Personalitie
- News and u



Launch of an early version of the 5V61/A-350Zh/ABM-1 GALOSH missile with ailerons and gas-dynamic engines (Korovina V., Fakel Missiles. Moscow, Fakel Design Bureau, 2003).

Author: [DIMMI](#)

Created: 28.03.2010 15:48:57

Comments: [282](#)

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System A, B-1000 missile - GAFFER

DATA AS OF 2024 (standard replenishment)
System "A", missile V-1000 - GAFFER Experimental multi-channel universal range missile defense system. Lead developer - SKB-30 (a subdivision of KB-1 for missile defense issues, later - Research Institute of Radio Instrument Making - NIIRP, now part of GSKB Almaz-Antey), chief designer - [G.V. Kisunko](#). R & D to create the experimental complex "A" was conducted from 1953-1954. Development of a prototype ballistic missile tracking radar (an electronic warhead station in a spherical fairing) began in 1956. Based on the research results, on February 3, 1956, [G.V. Kisunko](#) made a report on the possibility of creating a missile defense system to the Presidium of the CPSU Central Committee. The preliminary design of the ABM system was ready in March 1956. Resolution of the Central Committee of the CPSU and the USSR Council of Ministers No. 1160-596 on the creation of an experimental ABM system "A" and a testing ground for it in the Betpak-Dala desert (Sary-Shagan testing ground) was issued on August 17, 1956. The resolution provided for the development of an experimental ABM system in the following cooperation: - the chief designer of the "A" system and the experimental RE radar was appointed [G.V. Kisunko](#) (SKB-30 / NIIRP); - the development of the V-1000 anti-missile - the chief designer P.D. Grushin (OKB-2); - the development of early warning radar

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- [RPK-7 Wind -](#)

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- [pr.11711 - IVA](#)

[Rishat](#) 2024-09-0
- [pr.11711 - IVA](#)

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- [pr.11711 - IVA](#)

[Rishat](#) 2024-08-2
- [pr.11711 - IVA](#)

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- [Historical pho](#)

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projects was assigned to A.L. Mintz and A.I. Berg (according to other sources, A.L. Mintz and V.P. Sosulnikov); - the development of the anti-missile launch radar - S.P. Rabinovich; - development of the central computing station - S.A. Lebedev; - development of the data transmission system - F.P. Lipsman; - development of the anti-missile launcher - I.I. Ivanov; Deputy Chief Designer of the "A" system for the anti-missile guidance system since 1955 was O.V. Golubev.

★★★★



Monument to the V-1000 missile on a standard SM-71P launcher in the city of Priozersk, Sary-Shagan testing ground (<http://militaryrussia.ru/forum>).

Author: [DIMMI](#)

Created: 28.03.2010 14:55:57

Comments: 43

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Complex 14Ts033 Nudol, missile 14A042

DATA AS OF 2023 (standard replenishment)

Complex 14Ts033 / R&D "Nudol", missile 14A042 - PL-19

Anti-space defense complex / long-range missile interception complex with a space-based missile. The 14Ts033 firing complex with the 14P078 command and control center and the 14Ts031 radar is being developed under the R&D "Nudol" as a mobile anti-space defense complex, including for use in conjunction with the [A-235](#) missile defense system. The lead developer of the complex is the Almaz-Antey Air Defense and Space Defense Concern ([source](#) - *GSKB Annual Report*). The development of the 14A042 long-range intercept space missile is being carried out by the Novator Design Bureau (Yekaterinburg, General Designer F.Kh.Abdrahmanov, [source](#) - *JSC Avangard*, [source](#)), the development of the 14P222 launcher on the MZKT chassis is being carried out by the Special Machine-Building Design Bureau (KBSM). In 2010, the Almaz-Antey Air Defense Concern developed the preliminary design (EDP) for the 14Ts033 complex, prepared the initial data for construction work, and developed the preliminary design for the 14Ts031 radar ([source](#)). In 2011, the Almaz-Antey Air Defense Concern developed the working design documentation for the 14Ts033 firing complex, the first stage working design documentation for the 14Ts031 radar complex, and the functional software design ([source](#)). In 2011, GSKB Almaz-Antey developed the initial version of the software and algorithmic support (SAS) of the command and computing center (CCC) (item 14P078) of the 14Ts033 complex; working design documentation was developed for the component parts of the CCC 14P078 in terms of the container body and hardware container, as well as the program and methodology for field testing of the CCC 14P078 ([source](#)). In 2013, the Almaz-Antey Air Defense Concern completed the development of working design documentation and manufactured installation lots of the main functionally complete units of the 14Ts031 radar with a digital adaptive phased array ([source](#) - *Annual Report for 2013*). In 2013, the Design Bureau of Special Machine Building (KBSM) manufactured and shipped the MZKT chassis for the 14P222 (P222) launcher of the firing complex, ensured the manufacture of launcher equipment in the agreed volume, and developed an engineering note and RKD for the manufacture of a prototype of the hydraulic power supply system ([source](#)). *All data on the system are hypothetical and taken from open sources and the media. The list of sources is attached. The designation PL-19 means "unidentified object discovered at the Plesetsk No. 19 test site" (*

[source](#)). ★★★★★



New 12 x 12 MZKT chassis, which can presumably be used as the chassis of the P222 launcher of the 14Ts033 Nudol air defense system, 2018 ([source](#)).

Author: [DIMMI](#)

Created: 10.05.2014 20:04:40

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A-135 Amur system, 5Ya26/PRS-1/53T6 missile - ABM-3 GAZELLE (2).

DATA AS OF 2023 (standard replenishment, v.2)

A-135 ABM system, 5Zh60P "Amur-P" complex, 5Ya26 / PRS-1 - ABM-X-3A / SH-08 missile

A-135 / RTC-181 ABM system, 5Zh60 "Amur" complex, PRS-1 missile / 53T6 - ABM-3A GAZELLE / SH-08M

A-235 / RTC-181M ABM system , PRS-1M / 53T6M missile

★★★★

Atmospheric high-speed short-range anti-missile of the A-135 ABM system . The missile was developed by OKB-8 / OKB "Novator" under the leadership of Lev Veniaminovich Lyulyev (later Chief Designer Pavel Kamnev) starting in 1967 for the S-225 object ABM system . After the conclusion of the ABM Treaty in 1972, the preliminary design of the A-135 ABM system was redesigned by the Scientific and Technical Center of the Vypel Scientific and Production Association (chief designer A.G. Basistov). Instead of the S-225 ABM system, the ABM system was equipped with a close echelon with 5Ya26 missiles of the S-225 system. Accordingly, the 5Ya26 missile was introduced into the Amur firing complex of the A-135 system . At the end of 1973, the design of the A-135 ABM system with PRS-1/53T6 missiles (new index of the 5Ya26 missile) was approved by the customer - the USSR Ministry of Defense.

In the period 1973-1978, the 5Ya26 missile was tested as part of the experimental S-225 ABM system . The first throw-out launch of the missile as part of tests for the Azov complex of the S-225 system was conducted at site No. 35 ("Ethylene", military unit 03145) of the 10th State Research Test Site Sary-Shagan on November 27, 1973. Factory tests of the missile using the Azov complex of the S-225 system began in 1978. The tests were completed with the successful destruction of a ballistic target, an 8K65 missile, on April 28, 1984; the miss was 50 m at a range of 40 km. This was the last launch of the PRS-1 using the S-225 complex .

In July 1979, the first throw-out launch of the PRS-1 / 53T6 (SH-08) short-range interceptor missile was conducted at site 35 using the Amur-P complex of the A-135 system. The first launch of the 53T6 missile in a closed control loop was carried out in July 1981. On June 18, 1982, two 5Zh60P Amur-P anti-missiles at the Sary-Shagan test site intercepted RSD-10/SS-20 ballistic missiles (launched from the Kapustin Yar test site) and R-29 SLBMs (launched from a Northern Fleet SSBN).

Factory test sites of the A-135 system with the first stage equipment began in November 1982 and were completed in March 1984 (including 5 launches of 53T6 missiles, including 4 in a closed control loop). In 1984, the PRS-1/53T6 anti-missile was officially included in the A-135 missile defense system. Since the mid-1980s (according to Western data), 53T6 missiles began to replace the ABM-1 Moscow missile defense system. Tests of the A-135 "Amur-P" system with the second stage equipment were conducted from March to October 1987 (including 5 launches of 53T6). After some modifications to the system, another stage of control tests of the range model was conducted - January-July 1988 (including 3 launches of 53T6).



Missile 53T6 / PRS-1 / ABM-3 GAZELLE in the Ukrainian Museum of Rocket Technology, 2019 (<http://www.russianarms.ru/>)

Author: [DIMMI](#)

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A-135 system, A-925/51T6 missile - ABM-4 GORGON

DATA AS OF 2023 (standard replenishment)

A-135 Amur-P / 5Zh60P missile defense system, A-925 / 51T6 / 5V51 missile - ABM-4 GORGON / SH-11

A-135 / RTC-181 / Amur / 5Zh60 missile defense system, A-925 / 51T6 / 5V51 missile - ABM-4 GORGON

★★★★

Multi-channel missile defense system of the Central Industrial District / Moscow - development of the A-35 missile defense complex. The development of a modernized version of the A-35 missile defense system - the A-35M system - was conducted by NIO-4 OKB-30 under the leadership of G.V. Kisunko until his dismissal in 1975. In parallel with Kisunko, work on the preliminary justification for the creation of a new second-generation missile defense system was begun by a group of the USSR Ministry of Radio Industry under the leadership of A.G. Basistov on the instructions of Minister V.D. Kalmykov at the end of 1968. By the end of 1969, the concept of a two-tier missile defense system was generally agreed upon with the USSR Ministry of Defense. It was assumed that anti-missiles with nuclear warheads would be used. In 1970, the ABM theme was completely transferred under the control of the USSR Ministry of Radio Industry - on January 17, 1970, the specialized TsNPO Vypel (ABM, missile attack warning systems and space control) was formed, the head of the scientific and technical center of TsNPO Vypel was A.G. Basistov. The development of the system in the NTC TsNPO Vypel was carried out on the topic of the research work "Fon-1".

Resolution of the USSR Council of Ministers No. 376-119 on the creation of the A-135 ABM system with the long-range interception firing complex "Amur" and the test site prototype "Amur-P" was issued on June 10, 1971. The A-135 system project was developed by TsNPO Vypel in 1971 under the supervision of A.G. Basistov. The project envisaged the creation of three Amur firing complexes at a distance of 600-800 km from Moscow and three S-225 short-range interception complexes, which would minimize the damage from the use of nuclear-tipped anti-missiles in the long-range ABM echelon and increase the reliability of intercepting attacking warheads. In December 1971, the preliminary design of the A-135 system (Research Institute of Radio Instrument-Making - NIIRP - USSR Ministry of Radio Industry) and the preliminary design of the Amur firing complex (STC TsNPO Vypel, chief designer - A.G. Basistov) were completed. The development of the A-925/51T6 anti-missile was entrusted to the Fakel Design Bureau, chief designer - P.D. Grushin. O.V. Golubev was deputy chief designer of the A-135 ABM system for the anti-missile guidance system.



Monument with an electric weighing model of the A-925/51T6 missile, Sofrino-1 settlement near Moscow, 12/28/2011 (Dmitry, <http://da-ck9.livejournal.com>).

Author: [DIMMI](#)

Created: 28.03.2010 16:15:48

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S-225 Azov system, 5Ya27/V-825 missile - ABM-X-3B

DATA AS OF 2023 (standard replenishment)

S-225 system, Azov complex, 5Ya27 / V-825 missile - ABM-X-3B

★★★

Exoatmospheric interception anti-missile missile as part of the Azov object-based anti-missile defense complex of the S-225 ABM system. By Resolution of the Council of Ministers of the USSR No. 660-270 of June 29, 1962 and Resolution No. 499-174 of May 4, 1963, the creation of the S-225 anti-aircraft guided weapon system was entrusted to KB-1 of the Ministry of Radio Industry and OKB-2 of the USSR Ministry of Aviation Industry. The development of an updated ABM system project was started by KB-1 in June 1962 under the supervision of T.R. Brakhman and K.K. Kapustyan.

The S-225 complex was proposed as an alternative to the developments of OKB-30 ([A-35](#) - ABM-1 GALOSH). It was decided to replace the missile with a solid-fuel ramjet engine with a faster two-stage solid-fuel missile V-758. The design of the V-758 missile was started in 1964 by OKB-2 (MKB "Fakel"), general designer P.D. Grushin.

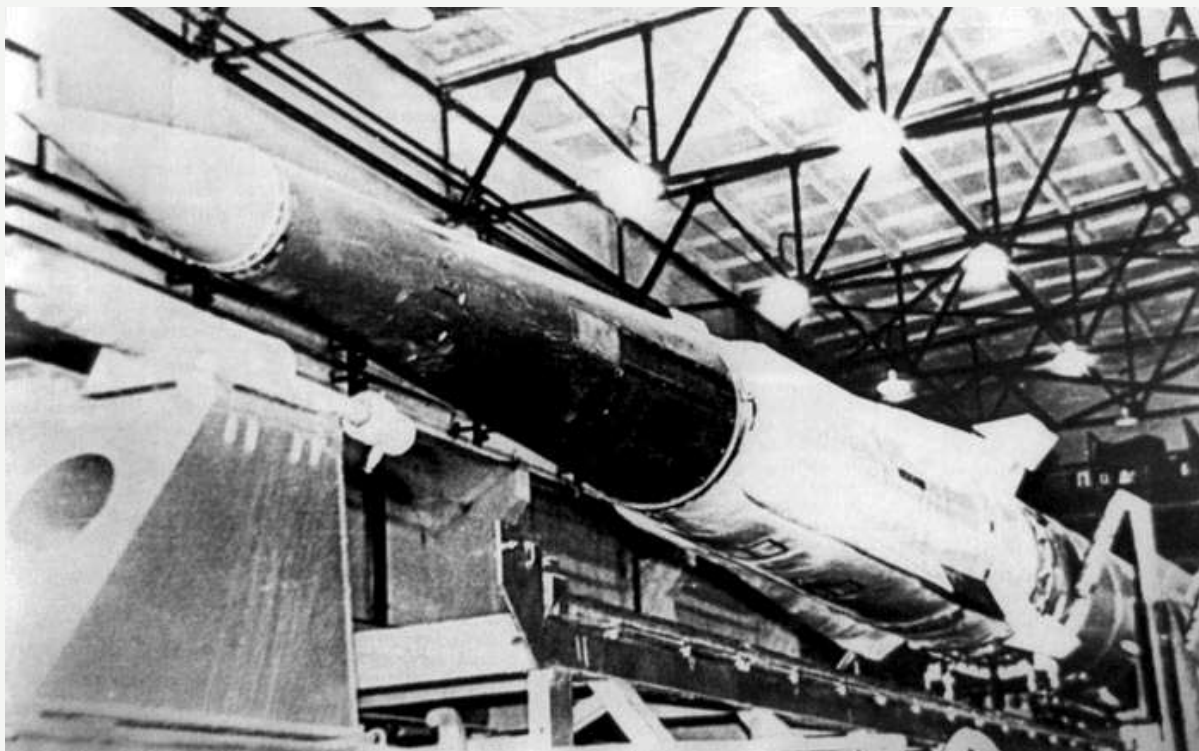
In 1965, SB-32 KB-1 released a new preliminary design for the S-225 system with two interception echelons and new missiles - a middle echelon with the V-825 missile and a close echelon with the V-758 missile. This project for the first time envisaged the use of a medium-range interception missile with a liquid-propellant rocket engine at the second stage - the V-825, the development of which was carried out by OKB-2 P.D. Grushin, the leading designer - V.A. Fedolov (since March 4, 1969 - V.E. Sloboda).

According to the preliminary design of 1965, the S-225 system was intended to defend border and coastal facilities from a limited strike by ballistic missiles. It was considered advisable to build a system from a group of single-channel fire complexes, united by common control and receiving external target designation. Relatively short interception ranges of ballistic missiles made it possible to use radars with a relatively moderate potential and missiles with a limited mass. All this made it possible to create the S-225 system as a complex of transportable assets. The ability to intercept a ballistic target in the atmosphere made it possible to select a warhead from among false targets (*source: Anti-aircraft missile system*).

The design of the 5Ya27 (customer index) / V-825 (designer index) missile began in 1964. The preliminary design of the missile was completed by July 1964. In November 1965, the preliminary design of the anti-missile system was adjusted to accommodate the new preliminary design of the S-225 system with two interception levels - medium (5Ya27 missile) and short (5Ya26). The S-225 system was renamed anti-missile and anti-aircraft, and the 5Ya27 / V-825 missiles were supposed to hit both aerodynamic and ballistic targets.

The missile design was significantly changed. After that, the development of technical documentation began. The production of the first missile samples for testing was carried out by the pilot production of the MKB "Fakel". The development of serial production of the missile began at the Dolgoprudny Machine-Building Plant in 1969. Serial production continued until 1973, about 20 missiles were produced.

Special thanks to "vuv" (<http://militaryrussia.ru/forum/>) and other veterans of the S-225 tests for their help in working on this material.



Anti-missile 5Ya27 MKB "Fakel" of the S-225 complex (Korovina V., Missiles "Fakel". Moscow, MKB "Fakel", 2003)

Author: [DIMMI](#)

Created: 05.03.2023 21:38:00

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A-35M System - ABM-1B GALOSH

DATA AS OF 2023 (standard replenishment)

A-35Msystem , A-350Zh / 5V61 / UR-96 missile - ABM-1A GALOSHA-35M system, A-350R / 5V61R / UR-96M missile - ABM-1 mod.2 / ABM-1B / SH-04 GALOSHABM system - a multi-channel Moscow ABM system with an exoatmospheric anti-missile - a modernization of the [A-35](#) using updated algorithms, equipment, guidance means, with the new A-350R missile. The development of the modernized ABM system was carried out since 1970 under the leadership of [G.V. Kisunko](#) (since 1975 - I.D. Omelchenko). Deputy Chief Designer of the A-35M ABM system for the anti-missile guidance system was O.V. Golubev. The ways of further development of the [A-35](#) were worked out starting from 1968. In November (November 5 and 14, 1968) at the scientific and technical council of the USSR Ministry of Radio Industry two ways of modernization of the system were considered: 1) [G.V. Kisunko](#) - strengthening the A-35 system with short-range firing complexes [S-225](#) (future [53T6](#)) with an increase in the potential and channels of the radar and CP; 2) Basistov A.G. - development of a new missile defense system similar to the Safeguard system (USA). In some sources the system is classified as ABM-2 according to NATO terminology (for example, in the classification adopted by the Federation of American Scientists <http://fas.org>), which we consider to be an erroneous identification.



Positional area of the A-35M system with the Tobol firing complexes, the A-350Zh anti-missile launcher next to the RKI-35 radar of the A-35M system (<http://vpk-news.ru>).

Author: [DIMMI](#)

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OKR Mozyr / product 171 / Kamchatka PRO

DATA AS OF 2022 (standard replenishment)

R&D "Mozyr" / product "171" / "Kamchatka PRO "



Active protection system for silo launchers of ICBMs of the Strategic Missile Forces. The development of an active protection system for ICBM silo launchers from attacks by warheads of ballistic missiles (including ICBMs) was carried out by the Machine-Building Design Bureau (Kolomna) under the general supervision of S.P. Nepobedimy since the mid-1970s. The chief designer of the KAZ is N.I. Gushchin. In 1979, the KBM department that was engaged in the creation of the KAZ product "171" was headed by V.M. Kashin (he headed the department in 1979 to 1985). The creation of the complex was directly supervised by the USSR Minister of Defense D.F. Ustinov and it is believed that the complex was created to protect future silos of the [R-36M2 Voevoda ICBM](#). The Tikhomirov Institute of Instrument-making (A.A. Rastov, V.V. Matyashev) and the NPO Fazotron (V.K. Grishin) took part in the development of the complexes.

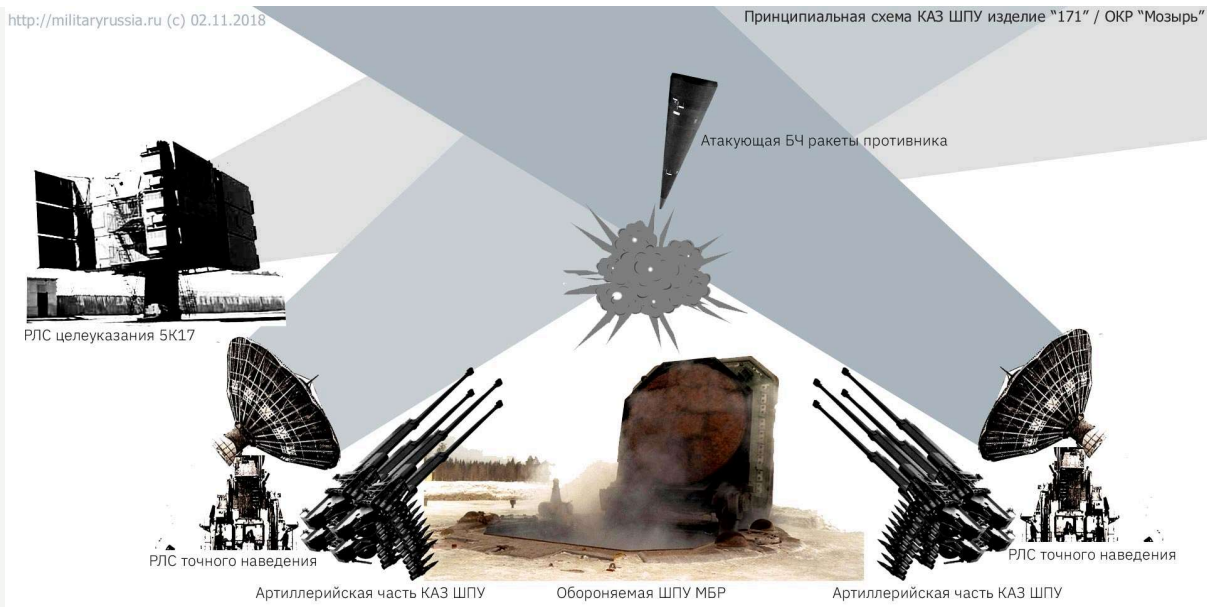
The active protection complex (APC) of the silo was to operate using the principles laid down in the APC of armored vehicles: an attacking object was detected as it approached the defended object and a barrier of fragments and combat elements fired by a multi-barrel APC

was created in its path. Although the creation of the infrastructure for testing the complex began in 1980-1981, the Resolution of the USSR Council of Ministers on the development and testing in real conditions at the Kura proving ground of the experimental complex was issued only in 1984. 250 enterprises of 22 ministries were involved in the creation of the system. Probably, in the second half of the 1980s - early 1990s, a prototype of the ICBM silo launcher APS was tested at the Kura test site on the Kamchatka Peninsula (military unit 25522, Klyuchi-1) at a special site 20 kilometers north of the Shiveluch volcano (object DIP-1).

To conduct tests at the Kura test site, probably between 1985 and 1988, an imitation of an OS-type ICBM silo launcher was built and a prototype of the active protection system was placed around the silo. During tests in the late 1980s, a low-altitude non-nuclear interception of an ICBM warhead simulator launched from the Plesetsk test site (according to other sources, from Baikonur) was carried out for the first time. Also, some later sources report that several such interceptions were carried out (*source* - *Gundarov*). The sources also mention electronic launches of the APS on warheads arriving at the Kura test site.

State tests of the experimental installation, Product "171", were completed in September 1991 (*source*: *Gundarov*). Funding for the work was stopped in August 1991. This development did not contradict the 1972 ABM Treaty. In 2012, information appeared in the media about the possible resumption of work on developing the APS for ICBM silos.

*The data on the Mozyr APS are largely unconfirmed and probabilistically hypothetical. Many conclusions on the functioning of the APS are made by assumption. The name "product 171" is mentioned by some later sources (*source* - *Gundarov*).*



Schematic diagram of the active protection system for the ICBM silo, product "171" / R&D "Mozyr" (<http://militaryrussia.ru>).

Author: [DIMMI](#)

Created: 11/15/2011 00:51:28

Comments: [259](#)

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System A-135 Amur / 5Zh60 / RTC-181

DATA AS OF 2018 (standard replenishment)

A-135 Amur-P / 5Zh60P missile defense system (test site sample)

A-135 Amur / RTC-181 / 5Zh60 missile defense system

★★★★

Multi-channel missile defense system of the Central Industrial Region and the city of Moscow. The development of a modernized version of the A-35 missile defense system - the A-35M system was carried out by NIO-4 OKB-30 under the leadership of [G.V. Kisunko](#) from the mid-1960s until his removal in 1975.

According to the memoirs of the first commander of the ABM and Air Defense Forces Yu.V. Votintsev (*history - Rubezhi*), in the summer of 1967, the Military-Industrial Complex Commission under the USSR Council of Ministers reviewed draft designs of promising missile defense systems with various radars (the basis of any missile defense system is a radar with a computing center):

- Aurora system with Istra radar (G.V.Kisunko)
- project of the system with the multifunctional radar "Don-N" (A.L. Mintz)
- Radar "Neman" (Yu.G.Burlakov)

According to the preliminary design, the Don-N radar was a sector multifunctional radar for detecting ballistic targets and guiding anti-missiles with phased array. Apparently, the Don-N radar was chosen as the main one for the future A-135 missile defense system, and a decision was made to build and test range samples of all radars. Based on the results of state tests in 1980, the Don radar was finally selected for further implementation out of three radars - Neman, Don-2NP and Istra-2 - for use in the A-135 missile defense system (*source - Radar technologies*).

In parallel with G.V. Kisunko, work on the preliminary justification for the creation of a new second-generation missile defense system, on the instructions of Minister V.D. Kalmykov, was started at the end of 1968 by a group of the USSR Ministry of Radio Industry under the leadership of A.G. Basistov. By the end of 1969, the concept of a two-tier missile defense system was generally agreed upon with the USSR Ministry of Defense. It was assumed that anti-missiles with nuclear warheads would be used.

In 1970, the missile defense theme was completely transferred to the control of the USSR Ministry of Radio Industry - on January 17, 1970, the specialized TsNPO Vypel (AMD, missile attack warning systems and space control) was formed, the head of the scientific and technical center of TsNPO Vypel was A.G. Basistov. The development of the future missile defense system in the STC TsNPO Vypel was carried out on the topic of the R&D project "Fon-1".

The USSR Council of Ministers Resolution No. 376-119 on the creation of the A-135 missile defense system with the Amur long-range interception firing complex and the Amur-P test site prototype was issued on June 10, 1971. The first project of the A-135 missile defense system was developed by the Vypel Central Research and Production Association in 1971 under the supervision of A.G. Basistov. The project envisaged the creation of three Amur firing complexes at a distance of 600-800 km from Moscow and three S-225 short-range interception complexes, which would minimize the damage from the use of anti-missiles with nuclear warheads in the long-range missile defense echelon and increase the reliability of intercepting attacking warheads. In December 1971, the preliminary design of the A-135 system (Research Institute of Radio Instrumentation - NIIRP - USSR Ministry of Radio Industry) and the preliminary design of the Amur firing complex (STC TsNPO Vypel, chief designer - A.G. Basistov) were completed.



Radar "Don-2N" / PILL BOX of the A-135 missile defense system, Sofrino-1 settlement, 12/28/2011 (photo by Leonid Varlamov, <http://mmet.livejournal.com>).

Author: [DIMMI](#)

Created: 05.11.2018 12:25:05

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S-225 Azov system, 5Ya26 and 5Ya27 missiles - ABM-X-3

DATA AS OF 2021 (standard replenishment)

S-225 system, V-757 missile

S-225 system, V-758 and V-825 missiles

S-225 system, Azov complex - ABM-X-3

5Ya26 / PRS-1 missile - ABM-X-3A GAZELLE / SH-08

5Ya27 / V-825 missile - ABM-X-3B Project of a universal limited mobility air defense system with missile defense capabilities / object-based missile defense system with a high-speed anti-missile and a medium-range anti-missile. The preliminary design is based on the developments of NII-648 on the [Saturn](#)

★★★★★

missile defense system , which, after the closure of the topic, with the assistance of V.N. Chelomey, were transferred to KB-1 (later renamed Almaz Central Design Bureau, now Almaz-Antey OJSC) of A.A. Raspletin. The decision of the Military-Industrial Committee of the USSR Council of Ministers to develop a limited-object missile defense system against promising aerodynamic targets and single medium-range ballistic missiles was made in May 1961. Later, the system was also tasked with repelling a single ICBM strike. The development of the missile defense system was entrusted to KB-1 of the USSR Ministry of Radio Industry (Minister - V.D. Kalmykov). The general designer of KB-1 was A.A. Raspletin, and from March 1967 - B.V. Bunkin. The chief designer of the S-225 missile defense system was V.M. Shabanov, later - V.D. Sinelnikov. The development of the first version of the preliminary design for the system began in 1961 in the KB-1 thematic laboratory under the supervision of V.I. Markov (until 1963), deputy chief designer was K.K. Kapustyan. At the initial preliminary design stage, it was assumed that the Program radar (chief designer Yu. G. Burlakov) would be used as a target designation radar, and that a promising missile with solid-fuel ramjet engines developed by OKB-2 MAP (MKB Fakel) under the chief designer P. D. Grushin (prototype - V-757 missile) would be used as an anti-missile. The preliminary preliminary design of the S-225 firing system was completed at the end of 1961. It was planned that the system would include a command post, radio equipment and missile launchers. By Resolution of the USSR Council of Ministers No. 660-270 of June 29, 1962 and Resolution No. 499-174 of May 4, 1963, the creation of the S-225 anti-aircraft guided weapon system was entrusted to KB-1 of the Ministry of Radio Industry and OKB-2 of the USSR Ministry of Aviation Industry. After reviewing the report on the tests of the Verba, Kaktus and Krot missile defense countermeasures, work began on developing ways to select real targets in a group ballistic target. A decision was made to use atmospheric target selection - when entering the dense layers of the atmosphere, the warheads continue to move, and light false targets are filtered out. This selection method required increasing the requirements for the interceptor missile. Development of an updated missile defense system project to combat hypersonic aerodynamic targets and ballistic missiles was started by KB-1 in June 1962 under the leadership of T.R. Brakhman and K.K. Kapustyan. *Special thanks to "vuv"* (<http://militaryrussia.ru/forum/>)

) and other veterans of the S-225 tests for their assistance in working on the material.



Radar with phased array RSN-225 / FLAT TWIN of the measuring complex 5K17, Kamchatka. The radar is captured before being painted green. (Photo from the archive of the Military-Industrial Complex, Dementyev G. SMU-304 - GPTP "Granit" - JSC "GNPO "Granit". // Military-Industrial Courier. No. 7 / 2007).

Author: [DIMMI](#)

Created: 28.03.2010 16:32:53

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A-235 / RTC-181M / ROC Samolet-M

DATA AS OF 2020 (standard replenishment)

A-235 / RTC-181M / ROC "Samolet-M" system, 58R6 complex, 53T6M / 45T6 missiles

★★★★

Multi-channel missile defense system. The development of a modernized version of the A-135 missile defense system was prescribed by Resolution of the USSR Council of Ministers No. 585-119 on the construction of the A-135 system, which was issued on June 7, 1978. The design of the system was started by NIIRP TsNPO Vypel in 1985, General Designer - A.G. Basistov (until 1998), Chief Designer - B.P. Vinogradov. In accordance with the Resolution of the USSR Council of Ministers dated 15.07.1985 No. 661-202, NIIRP, as a division of TsNPO Vypel, is the lead enterprise of Russia for the multi-echelon missile defense system as a whole, for the ground-based missile defense system and the information support system for the missile defense system. The first draft design of the A-235 missile defense system was proposed by A.G. Basistov in 1985.

According to the 1985 design, it was proposed to include in the A-235 missile defense system (*source - Pervov*):

- command and computer launch (KVP)
- the Kiev radar complex for information support of firing complexes;
- multi-channel two-echelon firing complexes "Kivach" with the multi-channel radar "Narva" and anti-missiles of the MKB "Fakel" and OKB "Novator";
- firing complexes "Ilek" with a mm-range radar;
- multi-channel firing complex "Amur" of the A-135 missile defense system;
- optical-electronic information complex of air-based "Onega";
- launch positions;
- missile and technical bases.

The development of the system project was carried out in 1985-1989.

Initially, the A-235 system was planned to be three-echelon: long-range echelon with A-925/51T6 missile defense missiles, middle echelon - 58R6 firing complex, short-range echelon - PRS-1M/45T6 missiles (the result of the modernization of PRS-1/53T6 missiles).

State contract No. 406/1591 dated 31.01.1991 was concluded with NIIRP for the modernization of the missile defense system, work on expanding the combat capabilities of the A-135 system in terms of increasing the far boundary of the engagement zone, increasing the maneuverability of the missile, and equipping the missiles with a new warhead (all together - R&D "Samolet-M"). The name of the missile and technical complex of the modernized Moscow missile defense system is RTC-181M. The readiness date of the modernized version under the state contract is 2015. According to the Decree of the President of Russia dated 17.02.1995 No. 163, NIIRP is designated as the lead enterprise for the modernization and improvement of the Moscow missile defense system - the RTC-181 system - and the creation of the RTC-181M system. General Designer - A.G. Basistov. After the death of A.G. Basistov in 1998, B.P. Vinogradov became the general designer of NIIRP.

All data on the system are hypothetical and taken from open sources and the media. The list of sources is attached.



Radar "Don-2N" / PILL BOX of the A-135 missile defense system, Sofrino-1 settlement, 12/28/2011 (photo by Leonid Varlamov, <http://mmet.livejournal.com>).

Author: [DIMMI](#)

Created: 01.04.2010 22:53:35

Comments: [50](#)

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OCD Lightning

DATA AS OF 2020 (standard update)

R&D project "Molniya"



Long-range exoatmospheric interceptor missile of the prospective missile defense system / program for the creation of new types of anti-missile equipment. Work on the R&D project "Molniya" was carried out by NIIRP in the 1980-1990s. The head of the topic at NIIRP is Oleg Vasilyevich Golubev ([source](#)). Probably, the interceptor missile was created as part of the work on the creation of the [A-235](#) (R&D project "Samolet-M" / "Samolet-Molniya"?). The development of a modernized version of the [A-135](#) was mandated by Resolution of the USSR Council of Ministers No. 585-119 on the construction of the [A-135](#), which was issued on June 7, 1978. The design of the A-235 system was carried out by the NIIRP TsNPO Vypel since 1986, the general designer was A.G. Basistov (until 1998), the chief designer was B.P. Vinogradov. After the death of A.G. Basistov in 1998, B.P. Vinogradov became the general designer of the NIIRP. In accordance with the Resolution of the USSR Council of Ministers dated July 15, 1985 No. 661-202, the NIIRP, as a division of TsNPO Vypel, is the lead enterprise of Russia for the multi-echelon missile defense system as a whole, for the ground-based missile defense system and the information support system for the missile defense system. The first draft design of the A-235 missile defense system was probably approved in 1985-1986.

Initially, the A-235 system was planned to be three-tiered: a long-range tier with missile defense missiles similar to the [A-925/51T6](#), a middle tier — the 58R6 firing complex, and a short-range tier — PRS-1M/45T6 missiles (the result of upgrading the [PRS-1/53T6](#)). State contract No. 406/1591 dated 31.01.1991 was concluded with NIIRP for the modernization of the missile defense system, work to expand the combat capabilities of the [A-135](#) in terms of increasing the long-range boundary of the engagement zone, increasing the maneuverability of the missile, and equipping the missiles with a new warhead (all together - the [Samolet-M R&D project](#)).

The development of the long-range intercept missile was carried out on the basis of and as a replacement for the [A-925/51T6](#). Developer - Almaz Central Design Bureau. Since 1990, as part of the work to expand the combat capabilities of the A-135 missile defense system, work was carried out on the Molniya and Kopye-2A programs ([source - Shield of Russia...](#)). In 1993, testing under the program to create a non-nuclear exoatmospheric interceptor Molniya (as well as Kopye-2A and Pika-M) was planned to be carried out at the Sary-Shagan test site before 2000 ([source - Unique...](#)). Tests of the missile or its prototype were probably carried out at the Sary-Shagan test site in October-November 2007 ([source - Starostin V.](#)).

All data on the system are hypothetical and taken from open sources and the media. The list of sources is attached.



Long-range interceptor missile tested under the Molniya R&D project, Sary-Shagan test site, probably 2007 (photo - Mikhail Pervov, <http://www.moskva-kniga.ru>).

Author: [DIMMI](#)

Created: 12.02.2012 23:48:28

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System S-500 / 55R6M Triumfator-M, complex 98Zh6M1 - SA-X-26

DATA AS OF 2017 (standard replenishment)

S-500 Prometheus / 55R6M Triumfator-M / Triumfator-MR system, 98Zh6M1 complex - SA-X-26

S-1000

NIR Samoderzhets system, NIR Vlastelin-TP

★★★

Anti-aircraft missile system for air defense and missile defense / long-range anti-aircraft missile system. The S-500 system is being developed by the State Design Bureau of the Almaz-Antey Air Defense Concern. In 2002, NPO Almaz prepared an engineering note on the creation of a 5th generation anti-aircraft missile system, and outlined the main performance characteristics of the system. Development of the appearance of the SAM began in 2003. In 2004, the preliminary design of the S-500 SAM began. In 2005, NPO Almaz completed work on a component of the Vlastelin research project and work on the Samoderzhets-A-A research project within the framework of the State Defense Order for 2005. In 2006, the Scientific and Technical Council of the Military-Industrial Complex under the Council of Ministers of Russia and the Board of Directors of the Almaz-Antey Air Defense Concern proposed to appoint the GSKB of the Almaz-Antey Air Defense Concern as the lead design bureau for the development of the S-500 5th generation air defense/missile defense system. On February 27, 2007, the Scientific and Technical Council of the Military-Industrial Complex under the Government of Russia approved the GSKB as the lead developer of the Unified Air Defense Missile Weapons System, which includes the S-500 air defense system as one of the components.

2008 GSKB Almaz-Antey carries out the 4th stage of the R&D project "Vlastelin-TP" ("Triumfator-Prometheus"), work is underway on the preliminary design of the product 97L6 R&D project "Vlastelin-TP".

2009 the development of the S-500 SAM system was announced in the media, and the development of working design documentation for the S-500 SAM system is underway. By order of JSC MKB Fakel in 2009 JSC Radiofizika carried out work on the component part of the R&D project "Triumfator-MR-RF". Stages 1 "Development of the technical design of product 77N6.1.R" and stage 2 "Prototyping of product 77N6.1.R" were carried out. The work was completed in 2010. In 2009, advance payments for the works were received in the amount of 13.698 million rubles, including 4.883 million rubles for stage 1 and 8.815 million rubles for stage 2 ([source](#)). By order of JSC GSKB Almaz-Antey and JSC Radiofizika, the active antenna array of the 77T6 multifunctional radar is being developed according to the MC R&D project Triumfator-AAR-1. At stage 1, a technical project was developed for the antenna array of the 77T6 product. The volume of work in 2009 in contract prices amounted to 52.790 million rubles. At the same time, JSC Radiofizika was working on the MC R&D project "Development, manufacture, adjustment and testing of a mock-up of an X-band AFAR fragment with optical power supply" code MC R&D project Triumfator-M "TA-256". In 2009, stages 1 "Development and production of a prototype of an X-band APAA fragment with optical power supply" and 2 "Configuration and testing of a prototype of an X-band APAA fragment with optical power supply" were completed. The work is being completed in 2010 (in 2009, an advance payment for stage 1 in the amount of 28.536 million rubles was received). By order of JSC GSKB Almaz-Antey, the development and manufacture of the 1TA120 subarray mockup is being carried out, as well as the manufacture of a test rig and testing of the subarray mockup (code SC ROC "Triumfator-MKT-F"). Under stage 1, the mockup of the antenna device based on an AFAR with feeder excitation for the 77T6 product and testing of the mockup units were carried out. Work has begun on stage 2 "Adjustment and testing of the mockup of the antenna device based on an AFAR with feeder excitation for the 77T6 product" ([source](#)).

2010 GSKB Almaz-Antey developed the technical design of the 55R6M air defense system and the technical design of the 98Zh6M1 missile complex, the possibility of developing a system with the required TTX, communication means for the air defense system were developed, control means were tested in a full-scale experiment. Also in 2010, a mock-up of the air defense missile system - products 77T6, 77N6-N and 77N6-N1 - was conducted, a MIMS (mock-up) of the main component of the system - the anti-aircraft missile system 98Zh6M1 was created, autonomous development of the software was conducted ([source](#) - Annual report of GSKB "Almaz-Antey" for 2009-2010).

The name SA-X-26 has not been officially confirmed.



Presumably the S-500 SAM launcher type 77P6-1 on the MZKT-792911 chassis (New Year's calendar of the Almaz-Antey Air Defense Concern for 2015 via Said Aminov, <http://saidpvo.livejournal.com> , processed by <http://militaryrussia.ru>).

Author: [DIMMI](#)

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Aurora system, complex 5Zh19 Argun - ABM-X-2

DATA AS OF 2017 (standard replenishment)

Aurora system, 5Zh19 Argun / 5Zh19P Argun-P complex, A-351 and A-900 missiles - ABM-X-2

5Zh19I Argun-I measuring complex

5N25 Istra / Argun radar

99Zh6 Ruza

radar 5N16E / 11P Neman-P radar

★★★

Project of the territorial multi-channel missile defense system / multi-channel firing complex (MCFC) "Argun" developed by OKB-30 [G.V. Kisunko](#) (NIIRP). In combination with a phased array radar and two types of anti-missiles, it was supposed to solve the problem of repelling a massive missile attack by ICBMs with MIRVed warheads. The development of the missile defense system began in 1964. According to the memoirs of G.V. Kisunko, the missile defense system project was not implemented due to the unattainability of 100% efficiency in recognizing real targets against the backdrop of numerous false ones at that level of technology development. The concept of the Aurora missile defense system envisaged, in the event of a massive strike by ballistic missiles using false targets, a long-range "clearing" strike by the A-900 anti-missile with a high-power nuclear warhead, followed by finishing off the identified real warheads with the A-351 all-altitude anti-missile (a modification of the [A-350 missile of the A-35 missile defense system](#)). The chief designer of the missile defense system was [G.V. Kisunko](#) , from November 1965 to 1975 - N.K. Ostapenko.

On November 5, 1965, the USSR Defense Council heard a report [by G.V. Kisunko](#) "On the premature development of a preliminary design for the construction of a territorial missile defense system for the country, operational in conditions of a massive attack by advanced ballistic missiles, on the topic of "Aurora" before the delivery of the A-35 to the USSR Ministry of Defense." As a result, Resolution of the USSR Council of Ministers No. 297-318 of November 5, 1965 was adopted on the creation of a preliminary design for the Argun range multi-channel firing complex as the second stage of the [A-35](#) missile defense system . The Argun multi-channel firing complex was created as a development of the [A-35](#) missile defense system for target and anti-missile channels. The main objectives of the range tests were to develop and verify the design principles and basic hardware solutions for the Argun multi-channel firing complex and the means included in it, as well as to evaluate its characteristics.

On May 3, 1967, the USSR Council of Ministers also adopted Resolution No. 387-144 on the creation of the Argun complex. The missiles were developed by the Fakel Design Bureau. The draft design of the Argun complex to ensure the reflection of an ICBM attack with MIRVed IR was proposed in the summer of 1967.

According to the memoirs of the first commander of the ABM and PKO troops, Yu.V. Votintsev (*source - Rubezhi*) In the summer of 1967, the Military-Industrial Complex Commission under the USSR Council of Ministers reviewed the draft designs for the Aurora missile defense system (G.V. Kisunko), the Don-2N multifunctional radar (A.L. Mintz), and the Neman radar (Yu.G. Burlakov). According to the design, the Aurora missile defense system was to include 4 Argun multi-channel firing complexes (MFSC) to be deployed near Moscow and Kuibyshev. The MFSC included a phased array target detection radar, a multi-channel anti-missile guidance radar, and long-range A-350R and A-900 anti-missiles. The design was criticized by the Customer (4th Main Directorate of the USSR Ministry of Defense) due to the impossibility of selecting targets in the exoatmospheric region during a massive strike by modern ICBMs. As a result, work on the project of the territorial missile defense system "Aurora" was closed in September 1967, and work on the MКСK "Argun" was continued. In 1967, N.K. Ostapenko was appointed chief designer of the "Argun" complex.



On the left is the 5N25 Istra/Argun radar of the Argun complex. On the right is the Ruza radar. The 38th site of the Sary-Shagan test site. Apparently the 1990s - early 2000s (<http://www.atolkahev.ru/>).

Author: [DIMMI](#)

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Taran System (project)

DATA AS OF 2015 (standard replenishment)

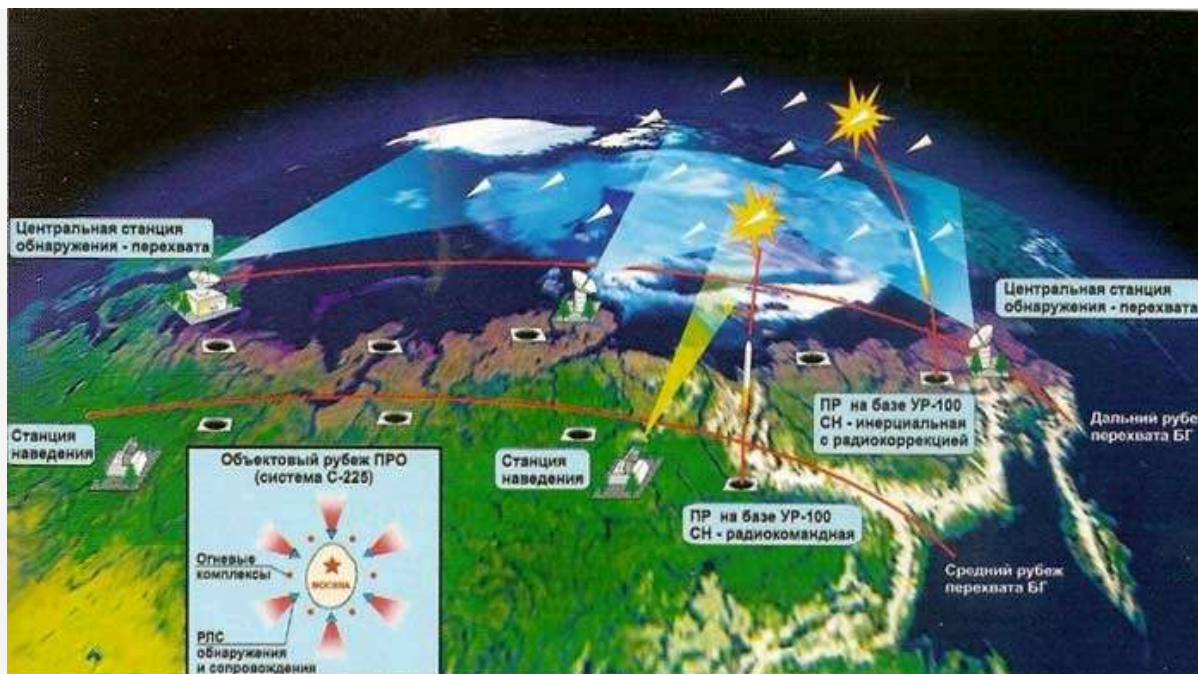
Taran system (project), UR-100 complex and missile

★★★

A project for a strategic missile defense system proposed for development by V.N. Chelomey's OKB-52. The project was proposed to the USSR Government on its own initiative in August 1961 using the UR-100 universal ICBM ("universal missile") developed by the same OKB-52. It was supposed to intercept attacking targets with target designation from the TsSO-P radar (A.L. Mintz), located in the missile-hazardous direction 500 km from Moscow towards Leningrad (wavelength range 30 cm), as well as according to data from the RO-1 and RO-2 AWACS posts (Murmansk and Riga). The interception was to be carried out by ballistic launches of UR-100 ICBMs with 10 Mt nuclear warheads at "extended" meeting points with possible trajectories of attacking ICBMs. The finishing off of the ICBM warheads that had broken through was supposed to be done using the [S-225](#) zonal missile defense systems .

Resolution of the Central Committee of the CPSU and the Council of Ministers of the USSR No. 389-140 on the creation of the UR-100 missile system with a simplified silo launch and an ampulized universal UR-100 missile was issued on March 30, 1963. The Resolution stipulates the development of the UR-100 missile both as a ballistic missile for hitting ground targets and for the country's anti-missile defense (*source - Resolution*). The start date for joint tests of the complex was set by the Resolution for the 4th quarter of 1964. Chief Designer of the Taran missile defense system is A.L. Mintz.

According to sources, when in 1964 Academician M.V. Keldysh informed the government that in order to repel a raid by 100 ICBMs it would be necessary to detonate 200 anti-missiles with nuclear warheads over the country's territory, the "Taran" theme was closed by an order from N.S. Khrushchev. The revival of the ABM system was proposed by V.N. Chelomey in response to SDI in the 1980s, but the proposal did not receive support from the country's leadership. Full-scale design work on the "Taran" ABM system was not carried out.



Basic diagram of the Taran missile defense system (Strategic ground-based missile systems. Moscow, Military Parade 2007, 248 p.)

Author: [DIMMI](#)

Created: 28.03.2010 15:28:40

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Other unrealized missile defense and air defense projects

DATA AS OF 2010 (standard update)

Random compilation of data on unrealized or unidentified missile defense projects

★★

prior to the 1960s

I-32 - a research program into the possibility of detecting and intercepting long-range ballistic missiles. The program was carried out by NII-885 and NII-20 in 1948.

"Barrier" - preliminary design of the zonal missile defense system Radiotechnical Laboratory of the USSR Academy of Sciences (RALAN), development was carried out in 1954.

The missile defense system with the AEW radar "Dunai-2" - development of the preliminary design of the missile defense system with the AEW radar "Dunai-2" was proposed by KB-1 (Raspletin, Kisunko) together with OKB-2 MAP (missiles, future MKB "Fakel") in 1954. Later, the preliminary design was implemented in the "A" missile defense system.

1960s :

"Fon-1" - a project of a two-tier missile defense system with space-based elements by KB-1 (TsNPO Vympel). MKB Fakel and OKB Novator were involved (or were supposed to be involved) in developing the project (1968).

Author: [DIMMI](#)

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Program D-20 / ISV-48

DATA AS OF 2015 (to be updated)

D-20 / ISV-48 Program

★

R&D program for missile defense. By the Resolution of the USSR Council of Ministers of July 15, 1985, two programs for research in the interests of missile defense were approved: ground-based (D-20 program) and space-based (SK-1000 program). The lead ministry responsible for implementing the D-20 program was the USSR Ministry of Radio Industry. The D-20 program was based on the continuation of work on the creation of the [A-135](#) system, the development of the [A-235](#) and [A-1035](#) missile defense systems, and the continuation of work on the [S-550](#) system (*historical - anti-missile*).

After the start of work on the SDI program in the USA, the 45th Central Research Institute created the NIC PRO (National Research Center for Missile Defense) whose task was to substantiate the strategic and operational-tactical multi-echelon missile defense system and to form plans for the creation of promising systems and means, as well as programs for their experimental testing in proving ground conditions. As a result, the NIC PRO of the 45th Central Research Institute, together with the scientific department of the Ministry of Defense, research institutes and design bureaus of the defense industry, developed the ISV-48/D-20 program ([source](#)).

Author: [DIMMI](#)

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S-550 system (project)

DATA AS OF 2015 (standard replenishment)

S-550 System

★★

Project of an object-based missile defense system / mobile short-range missile defense system. Development of the missile defense system using the experience of creating the limited-mobility [S-225 Azov](#) missile defense system, but on a new element base, was started by Resolution of the USSR Council of Ministers No. 635-188 of July 5, 1981. Development was carried out by the Almaz Central Design Bureau jointly with the Novator Design Bureau (short-range interception missile). Chief designers - B.V. Bunkin and A.A. Lemansky.

By the end of 1981, technical proposals and a preliminary design for the system were released. In 1985, as technical documentation for the missile defense systems was released, plants began manufacturing the missile defense system equipment. By 1988, the components of the firing complex had been

manufactured - the hardware of the radar guidance system, the command post, the computing equipment, and the antenna post was 50% complete - a rotating base, metal structures, and antenna elements of the phased array were manufactured for the antenna post.

By the Resolution of the USSR Council of Ministers of July 15, 1985, two programs for conducting research in the interests of missile defense were approved - ground-based (the D-20 program) and space-based (the SK-1000 program). The lead ministry responsible for the implementation of the D-20 program was the USSR Ministry of Radio Industry. The D-20 program was based on the continuation of work on the creation of the [A-135](#) system , the development of the [A-235](#) and [A-1035](#) missile defense systems , as well as the continuation of work on the S-550 system (*historical - anti-missile*).

Testing of the S-550 was planned to begin in 1990 in the version of a stationary complex, so as not to go beyond the framework of the ABM Treaty, which prohibited the creation of mobile anti-ballistic missile defense systems. Deployment of the system would have been impossible without violating the provisions of the ABM Treaty (*source - Anti-Missile*). Preparations for the assembly of the firing complex were started, but in 1988 work on the S-550 ABM system was stopped (*source - History*). The equipment of the prototype was dismantled after 1992.

Author: [DIMMI](#)

Created: 20,11,2010 23:40:54

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System A-1035 (project)

DATA AS OF 2015 (to be updated)

A-1035 System (project)



Project for a territorial missile defense system. Development was mandated by Resolution of the USSR Council of Ministers No. 585-119 on the construction of the A-135 system dated June 7, 1978. Later, by Resolution of the USSR Council of Ministers dated July 15, 1985, two programs for conducting research in the interests of missile defense were approved: ground-based (D-20 program) and space-based (SK-1000 program). The lead ministry responsible for the implementation of the D-20 program was the USSR Ministry of Radio Industry. The D-20 program was based on the continuation of work on the creation of the [A-135 system](#), the development of the [A-235](#) and A-1035 missile defense systems , as well as the continuation of work on the [S-550](#) system (*historical - anti-missile*).

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Saturn system

DATA AS OF 2010 (standard replenishment)

Saturn system, 20D"S" missile

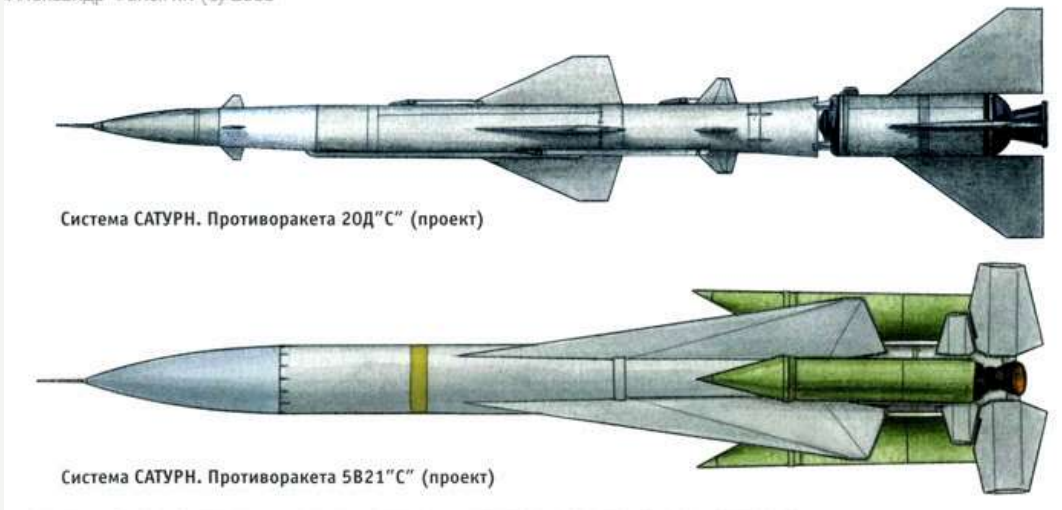
Saturn system, 5V21"S

" missile Prizma complex



Project of a mobile ABM system to combat IRBMs NII-648 (Research Institute of Precision Instruments of the USSR Miradioprom), chief designer - N.I. Belov. Missile design - OKB-464 (Dolgoprudny), chief designer L.G. Golovin. Research into the possibility of creating a mobile ABM complex has been conducted since 1958 based on the results of work on the S-75 and S-200 SAM systems. At least two preliminary designs were studied with 20D"S" missiles based on the S-75 SAM system and 5V21"S" missiles based on the S-200 SAM system. The preliminary design of the missile defense system was completed by the end of 1960. Work on the complex did not go beyond the scope of R&D and was stopped in 1961. The design of the mobile version of the complex was codenamed "Prism". After OKB-464 and NII-648 were removed from work on the system, the project materials were transferred to KB-1 of A.A. Raspletin and formed the basis for the creation of the [S-225](#) air defense and missile defense system .

Александр Фаныгин (с) 2003



Projections of missiles of the missile defense system "Saturn", projects (Korovina V., Missiles "Fakel". Moscow, MKB "Fakel", 2003)

Author: [DIMMI](#)

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